

REMARKS

The present application has been amended in response to the Examiner's Office Action to place the application in condition for allowance. Applicant, by the amendments presented above, has made a concerted effort to present claims which clearly define over the prior art of record, and thus to place this case in condition for allowance.

In the Office Action, the Examiner rejected all of the claims under 35 U.S.C. §102(c) citing Hirao (U.S. Patent No. 6,788,082). Each of the independent claims of the present application have been amended to further distinguish the claimed invention from that which is disclosed in Hirao. Specifically, claim 1 has been amended such that it now specifically claims, among other things, a round substrate which is configured such that the substrate is mountable in a contact ring useable in a semiconductor wafer electroplating process and resistance measurement circuitry which is on the substrate and is surrounded by and connected to a conductive pattern. Applicant respectfully submits that claim 1, as amended, is distinguishable from that which is disclosed in Hirao, and that claim 1, and those claims which depend therefrom, are allowable over Hirao.

Hirao does not disclose providing a round substrate which is mountable in a contact ring useable in a semiconductor wafer electroplating process, that there is a conductive pattern on the substrate, and that there is resistance measurement circuitry on the substrate and which is surrounded by the conductive pattern. Hirao also does not teach resistance measurement

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circuitry on the substrate which is not only connected to the conductive pattern, but which is configured to not only send test signals to the conductive pattern, but also is configured to receive signals from the conductive pattern and measure the resistances associated with electrical contacts of the contact ring.

In the Office Action, the Examiner cited the metal plate 102 as being a "substrate". However, unlike what is specifically claimed, the metal plate 102 disclosed in Hirao is not round such that it is mountable in a contact ring. Additionally, the metal plate 102 does not include a conductive pattern thereon, as is claimed in claim 1, or include resistance measurement circuitry which is on the substrate, surrounded by the conductive pattern, and which is configured to not only send test signals to the conductive pattern, but also is configured to receive signals from the conductive pattern and measure the resistances associated with electrical contacts of the contact ring. Hirao fails to disclose or suggest any such testing substrate.

In the Office Action before the most recent Office Action, the Examiner identified the circles shown in the middle of the probe card in Figures 4-8 as being a "contact ring". No associated description can be found in Hirao, but Applicant respectfully submits it certainly does not appear that the circles have anything to do with any contact ring which is being tested. Instead, it appears that the circles may merely represent, for example, an aperture in the card which makes the card easier to handle without accidentally touching one of the electrodes 5 or 6. Regardless, even if the circles shown in the middle of the probe card in Figures 4-8 can be said to be a "contact ring", there is no indication that the metal plate 102 (identified by the Examiner as being a "substrate") is mountable in a contact ring, or that the metal plate 102 has a conductive

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pattern or resistance measurement circuitry which is surrounded by the conductive pattern and which is configured to not only send test signals to the conductive pattern, but also is configured to receive signals from the conductive pattern and measure the resistances associated with electrical contacts of the contact ring.

In contrast, while Hirao discloses a "probe card checker", Hirao does not disclose or suggest that the probe card checker both sends test signals and measures the resistances. In fact, Hirao specifically teaches that this is not the case (see Figure 3 of Hirao which indicates current (I) coming in from the top of the diagram, as opposed to coming directly from the probe card checker 101). According to Hirao, a current is applied to the probe card pins, while the probe card checker checks the resistances associated with each pin (see, for example, col. 5, lines 25-42).

Applicant respectfully submits that claim 1, as amended, is distinguishable from that which is disclosed in Hirao, and that claim 1, and those claims which depend therefrom, are allowable over Hirao.

The other independent claim, claim 12, has been amended similarly to claim 1, but is directed to a method. Applicant respectfully submits that Hirao neither discloses nor suggests what is now being specifically claimed in claim 12. As such, Applicant respectfully submits that claim 12, and those claims which depend therefrom, are allowable over Hirao.

In view of the above amendments and remarks, Applicant respectfully submits that the claims of the application are allowable over the rejections of the Examiner. Should the present claims not be deemed adequate to effectively define the patentable subject matter, the Examiner is respectfully urged to call the undersigned attorney of record to discuss the claims in an effort to reach an agreement toward allowance of the present application.

Respectfully submitted,

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